UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Charlie Wright, Chairman
Kletsel Dehe Wintun Nation
P.O Box 1630
Williams, California 95987

Subject: Approval of Water Quality Standards for the Kletsel Dehe Wintun Nation

Dear Chairperson Wright,

I am pleased to approve the water quality standards (WQS) submitted by the Kletsel Dehe Wintun Nation, consistent with the requirements of section 303(c) of the Clean Water Act (CWA) and 40 C.F.R. Part 131. Supported by robust science and stakeholder engagement, the standards include Beneficial Uses, Water Quality Criteria, an Antidegradation Policy and Implementation Plan, Wetlands Protections, a Compliance Schedule Authorization Provision and a WQS Variance Authorization.

Summarized below are the approved WQS, which take effect immediately for CWA purposes. Incorporated as part of this letter are Enclosure A (EPA's detailed analysis of the standards and rationale for approval) and Enclosure B (Table of Approved Standards).

Approved Water Quality Standards

EPA approves the following WQS for the Kletsel Dehe Wintun Nation surface waters:

1. Applicability language
2. Beneficial Uses, Definitions, and Implementation
3. Use Attainability Analyses
4. Narrative Water Quality Criteria
5. Water Quality Criteria for Aquatic Life
6. Temperature Criteria
7. Design Flows
8. Recreational Water Quality Criteria
9. Water Quality Criteria for Human Health
10. Antidegradation Policy and Implementation Plan
11. Wetlands Protections
12. Compliance Schedule Authorization Provision
13. WQS Variance Authorization

The submitted Provisions also included site descriptions, maps, and other non-substantive items that are not new or revised WQS and are therefore not subject to EPA review and approval.

I look forward to our continued partnership to protect water quality at the Kletsel Dehe Wintun Nation and to advance human health and wildlife protection. Please call me if you would like to discuss further at 415-972-3337, or your staff may contact Suesan Saucerman at (415) 972-3522.

Sincerely,

TOMAS TORRES

Digitally signed by TOMAS TORRES
Date: 2021.04.16 15:53:21 -07'00'

Tomás Torres
Director, Water Division

Enclosures

cc: Brett Matzke, Executive Director, Kletsel Environmental Regulatory Authority
Jeff Lynch, Environmental Technician, Kletsel Environmental Regulatory Authority

Enclosure A
EPA Review of Kletsel Dehe Wintun Nation Water Quality Standards

Background

Section 303 of the CWA, 33 U.S.C. §1313, requires states to establish water quality standards (WQS) and to submit any new or revised standards to the Environmental Protection Agency (EPA) for review and approval or disapproval. See also 40 C.F.R. Part 131. On April 7, 2016, EPA approved the Kletsel Dehe Wintun Nation's (formerly known as the Cortina Band of Wintun Indians) application for Treatment in a similar manner as a state (TAS) for purposes of administering a water quality standards (WQS) program under section 303 of the Clean Water Act (CWA).

The Kletsel Dehe Wintun Nation's (KDWN or the Nation) adoption of new WQS involved the following actions: A Notice of Proposed Rulemaking of their WQS published on September 11, 2020, and a Public Hearing on November 6, 2020. Written comments were accepted up until December 18, 2020. No public comments were received. The Kletsel Dehe Wintun Nation prepared and submitted a Certification of "Lack of Public Comment" on November 10, 2020. The proposed WQS were approved and adopted by the Tribal Council on February 9, 2021. A certification from Brenda Tomaras, General Counsel for the Kletsel Dehe Wintun Nation certified the WQS were duly adopted pursuant to Kletsel Dehe Wintun Nation law. The Kletsel Dehe Wintun Nation submitted the WQS to EPA by email on February 17, 2021. EPA considered the KDWN WQS submittal complete on February 17, 2021. This document includes excerpts from the complete text of the Water Quality Standards: *Kletsel Dehe Wintun Nation Water Quality Standards. Kletsel Environmental Regulatory Authority (KERA) 1st Edition 9/11/20. Cortina Rancheria Water Quality Standards* (KDWN WQS).

As discussed more fully below, where EPA has determined that the Kletsel Dehe Wintun Nation's rule consists of new water quality standards, EPA has reviewed and acted on these revisions pursuant to section 303(c) of the CWA. EPA notes the submitted Provisions include standards for potable drinking water and ground water, which are not actionable under section 303(c) of the CWA and are not addressed further in this action.

Synopsis of Recommendation

Clean Water Act section 303(c) directs states to adopt water quality standards for waters that are subject to the CWA. EPA's implementing regulations at 40 C.F.R. Part 131, require, among other things, that water quality standards specify appropriate designated uses of the waters and water quality criteria that protect those uses. Kletsel Dehe Wintun Nation uses the term "beneficial use" to mean the same as "designated use" under the CWA. EPA reviews WQS to determine if they are consistent with the factors listed at 40 C.F.R. § 131.5 and contain the minimum requirements listed at 40 C.F.R. § 131.6.

This is the Kletsel Dehe Wintun Nation's first submittal of water quality standards to EPA for review and action. As such, this is a full suite of WQS that consists of applicability language,

designation of beneficial uses, definitions, numerical and narrative water quality criteria for aquatic life and human health, an Antidegradation Policy and Implementation Plan, wetlands protections, a compliance schedule authorization provision and WQS variance authorization.

EPA finds the new WQS to be consistent with 40 C.F.R. Part 131 and approves the WQS pursuant to section 303(c) of the Act.

Analysis of State/Tribe/Territory Submittal

Applicability Language

Section 2.1 from the KDWN WQS, "Designation of Applicable Waters" describes the water resources on the Nation and the conditions under which the WQS apply:

> "Waters resources within the Nation Include: Strode Creek, drainage channels 1 through 11, Seeps 1 through 9, the Strode Creek wetland area and Canyon 4 wetland. Numerical water quality criteria hereby apply to creeks and drainage channels where and when adequate seasonal volume and flow (aka free-flowing fresh waters) is available for sampling and groundwater wells located within the Tribal lands. Narrative water quality criteria hereby apply to all waters within the Nation, including seeps documented or not, wetlands, creeks, and drainages."

Section 2.2, "Designated Beneficial Uses for Nation Waters" clarifies that while there may not be standing water some of the time in some of the water bodies, the seasonal beneficial uses will be designated and protected.

> "Water bodies within the Nation which do not have standing water could innately support seasonal beneficial uses for wildlife habitat and/or aquatic life habitats. These habitat designations, in no way, will affect the presence of or absence of other beneficial uses in these water bodies. Further classification will be based on the size of the water body, intermittent or ephemeral seasonal flows, and its historic and environmental significance."

EPA finds the Nation has adequately described the water bodies and the applicability of the WQS and approves pursuant to 40 C.F.R. § 131.10(f).

Beneficial Uses, Definitions, and Implementation

Excerpt from p. 4 KDWN WQS: The following nine Beneficial Uses and definitions for the waters of the Nation are established:

1. **Agricultural Supply** (**AGR**): Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.
2. **Native American Cultural/Traditional** (**CUL**): Uses of water that support the

cultural and/or traditional rights by citizens of the Kletsel Dehe Wintun Nation. Associated activities include basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses. Ceremonial and/or religious water uses, including water the Tribal Council has declared as Sensitive or an Outstanding Tribal Resource Water, but not limited to hunting, gathering of materials, food, and medicinal plants. This use is protected under the American Indian Religious Freedom Act (**P.L.95-341**).

3. **Municipal and Domestic Supply** (**MUN**): Uses of water for community, military, or individual water supply systems.
4. **Rare**, **Threatened or Endangered Species or Species of Special Concern** (**RARE**): Uses of water that support habitat necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state, Tribal, or federal law as rare, threatened or endangered, or species of special concern.
5. **Water Contact Recreation** (**REC-1**): Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading.
6. **Non-Contact Water Recreation** (**REC-2**): Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities
7. **Warm Freshwater Habitat** (**WARM**): Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
8. **Wetland Habitat** (**WET**): Uses of water that support natural and man-made wetland ecosystems, including, but not limited to, preservation or enhancement of unique wetland functions, vegetation, fish, shellfish, invertebrates, insects, and wildlife habitat.
9. **Aquatic Life /Wildlife** (**WILD**): Provides habitat to sustain aquatic resources. Often subdivided into cold and warm water classification; provides water supply and habitat for maintenance of wildlife. Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

The Nation designated Beneficial Uses as shown in the Table below

Excerpt from p. 6 KDWN WQS: Table 3: Major Nation Water Channel Beneficial Use Classification Key

Drainage	Type	Inter State	AGR	CUL	MUN	RARE	REC-1	REC-2	WARM	WET	WILD
Channel 1	Primary Intermittent, RPW[1]	X	H	H[2]	N/A	P	N/A*	E	E	E	P
Channel 8a Strode Creek	Primary Perennial, RPW	X	H	E, H	E	E	E	E	E	E	E
Channel 9a	Primary Ephemeral, non-RPW	X	H	N/A	N/A	P	N/A*	E	E	N/A	P
The Classification Key for the Beneficial Uses is as follows: X= Waterbodies that extend beyond the Nation boundaries, H= Historical Use, N/A= Not Applicable, P= Potential Use, E= Existing Use. * Rec-1 Use does not exist Channel 1, and Channel 9a are tributaries to Channel 8a Strode Creek, when they leave the Nation. Use Attainability Analysis was completed for these water bodies: See attached Use Attainability Analysis in attachments.											

All waters are designated as interstate waters as they cross over the boundary of the Nation into California State waters. All waters are designated historically with the AGR beneficial use because the water had been used for agricultural purposes, but no longer is. The CUL beneficial use is designated as historical for Channel 1 because this channel was used for plant collection prior to 1975, and for Strode Creek as a historical and existing beneficial use because it is still used for plant collection (see footnote 2 below, and on page 6 in the KDWN WQS). Strode Creek is the only water body protected for the MUN beneficial use, and for REC-1. Further use designations include REC-2 and WARM for all waters, WET for two waters, and RARE and WILD for Strode Creek (potential use for the other 2 water bodies). Beneficial uses adopted by the Nation took into account community development, preservation, and enhancement of cultural and aesthetic values, plants, wildlife, and other aquatic resources and are based on EPA guidance (EPA 2012).

KDWN has not designated REC-1 use for Channel 1 and Channel 9a. CWA section 101(a)(2) states that "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for

[1] These waters were identified by Army Corps of Engineers as either Relatively Permanent Waters (RPW) or (non-RPW) non-Relatively Permanent Waters.

[2] Historically this channel and its accompanying Riparian area were used for plant collection prior to 1975 to the present day making them culturally important.

recreation in and on the water be achieved by July 1, 1983." The CWA and implementing federal regulations provide special protection for these "fishable/swimmable" uses by establishing a rebuttable presumption that all surface waters should support these uses and must be so designated. A state or tribe may elect not to designate certain waterbodies to protect water contact recreation only after conducting a Use Attainability Analysis (UAA) (40 C.F.R. § 131.10(j)) and demonstrating that attaining the use is not feasible based on one or more of the six factors listed in 40 C.F.R. § 131.10(g).

The Nation submitted to EPA the *"Kletsel Dehe Wintun Nation Cortina Rancheria Use Attainability Analyses (UAA)s, August 6. 2020"* for Channel 1 and Channel 9a, citing 40 C.F.R. § 131.10(g)(2): "Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met" to justify not designating these two water bodies with the REC-1 use.

The Nation's rationale is that REC-1 is unattainable in these two water bodies because they only have water during and immediately following rainfall. Precipitation-derived runoff occurs for short episodic periods of time; rainfall events typically occur in the wet season (mid-October through Mid-April) and generally effect stream flows on fewer than 14 days a year. The rest of the year they are completely dry. There are no discharges to the streams that might enable the REC-1 use to be met. Additionally, interviews with Tribal members (Brett Matzke, Pers. Comm.) confirm that REC-1 does not occur and has never occurred in the two channels. EPA finds the Nation has provided adequate justification in its UAAs to demonstrate that that the REC-1 use is not attainable for Channel 1 and Channel 9a and that these waters do not require the REC-1 use under 40 C.F.R. § 131.10(g)(2).

EPA finds EPA finds the Beneficial Uses adopted by the Nation are consistent with 40 C.F.R. § 131.10 and are approved pursuant to section 303(c) of the CWA.

Water Quality Criteria

Narrative Criteria

KDWN WQS Section 3.1 contains narrative water quality criteria applicable to all water resources on the Nation:

"General requirements. All waters on the Nation Section 2.1 shall be free from toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances in amounts that will prevent attainment of the designated uses specified in Section 2.2.

Aesthetic qualities. All waters on the Nation shall be free from substances, attributable to wastewater discharges or any other pollutant sources, that:

(i) Settle to form objectionable deposits.
(ii) Float as debris, scum, oil, or other matter forming nuisances.
(iii) Produce objectionable color, odor, taste, or turbidity.

(iv) Cause injury to, are toxic to, or produce adverse physiological responses in humans, animals, or plants; and/or
(v) Produce undesirable or nuisance aquatic life.

Protection of cultural and traditional uses. All waters with the cultural and traditional designated use shall be free from contaminants at levels that cause or contribute to an impairment in water-based activities essential to maintaining the Nation's cultural and traditional practices.

Downstream protection. All waters on the Nation shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the downstream waters of a state, such as Sacramento River Basin Plan water quality standards."

EPA finds that the narrative criteria are consistent with 40 C.F.R. § 131.11 and approves these WQS pursuant to section 303(c) of the CWA.

Numeric Criteria

In KDWN WQS Section 3.2 the Nation adopted all of the EPA recommended Aquatic Life (Table 4) and Human Health numeric criteria (Table 8) (full tables are shown in Enclosure B). The Nation based its numeric criteria on the current EPA 304(a) National Recommended Aquatic Life Criteria and National Recommended Human Health Criteria with the exception of mercury criteria see explanation below.

The numeric criteria are seasonal and apply only when waters are flowing which occurs during and after heavy rainfall, generally in winter and spring. Section 2.1 from the KDWN WQS states: "Numerical water quality criteria hereby apply to creeks and drainage channels where and when adequate seasonal volume and flow (aka free-flowing fresh waters) is available for sampling…" The waterways are dry most of the year, except for several seeps in the largest waterbody, Strode Creek.

The EPA 304(a) National Recommended Aquatic Life Criteria and Human Health Criteria are based on current scientific bases for criteria. The recommended human health ambient water quality criteria include specific levels of chemicals or conditions in a water body that are not expected to cause adverse effects to human health. EPA provides these recommendations for "water + organism" and "organism only" human health criteria for authorized states and tribes to consider when adopting criteria into their water quality standards. EPA finds these 304(a) criteria are appropriate to be applied to the waters of KDWN.

EPA finds that the numeric criteria listed in full in Enclosure B are consistent with 40 C.F.R. § 131.11 and approves these WQS pursuant to section 303(c) of the CWA.

Numeric Mercury criteria

The Nation has interstate waters that flow into California, and thus must take into consideration the protection of downstream California waters. The EPA 304(a) recommended aquatic life chronic criterion for mercury is 0.77 µg/L and is less stringent than the California

sport fish and prey fish criteria (i.e., objectives) for mercury which protects human health, aquatic life and wildlife. For mercury, the Nation adopted a water column translation of the fish tissue mercury value of 0.012 µg/L that is equivalent to, and protective of downstream California WQS.

The California objectives are fish tissue values based on fish consumption and bioaccumulation through the food chain. On May 2, 2017, the California State Water Resources Control Board adopted "Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions" (Resolution 2017-0027). The mercury provisions were approved by EPA on July 14, 2017. The Resolution sets statewide mercury fish tissue criteria (objectives) for the protection of aquatic life, wildlife and human health and creates new beneficial uses for tribal and subsistence fish consumption uses for California Regional Water Quality Control Boards to assign to waterbodies. Since the Nation has no fish on record as being present, making it impossible to monitor fish tissue, the Nation adopted the California water column concentration (for total mercury) for flowing waters translated from the fish tissue sport fish and prey fish objectives.

The California Water Quality Control Plan provides a Table with translated fish tissue-to-water column numbers meant to be used for reasonable potential analysis and development of water quality-based effluent limitations for discharge permits.[3] The total mercury value of 0.012 (µg/L) for flowing water with the COMM, CUL, WILD, MAR, RARE beneficial uses is more protective than USEPA 304(a) aquatic life chronic criterion for mercury (0.77 µg/L).

EPA approves these WQS pursuant to section 303(c) of the CWA as the KDWN numeric criteria for mercury are protective of downstream uses as required by 40 C.F.R. § 131.10(b) and is consistent with 40 C.F.R. § 131.11.

Protection of Downstream Waters: Diazinon and Chlorpyrifos

The Nation adopted EPA 304(a) aquatic life criteria for the pesticides diazinon and chlorpyrifos. The Central Valley Regional Water Quality Control Board (CVRWQCB) adopted more stringent criteria for the Sacramento and San Joaquin Rivers.[4] The Nation waters, after flowing off the Nation, could conceivably flow eventually to the Sacramento River some 30 miles downstream during and following heavy rains. The table below compares the EPA 304(a) criteria adopted by the Nation to the downstream California criteria for the Sacramento River nearest to the Nation.

[3] The water column translated mercury values can be found in Table 1 on page A-9 in *Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions*: https://www.waterboards.ca.gov/water_issues/programs/mercury/docs/hg_prov_final.pdf

[4] California CVRWCB diazinon and chlorpyrifos criteria can be found on Table 3.4 Page 3-10 in the Water Quality Control Plan: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

Comparison of KDWN criteria with downstream CA Criteria	Chlorpyrifos (µg/L)		Diazinon (µg/L)	
	CMC	**CCC**	**CMC**	**CCC**
KDWN = EPA 304 (a)	0.083	0.041	0.17	0.17
CA RB5	0.025	0.015	0.16	0.10

These two pesticides have been phased out for most urban use.[5] In late 2000, the EPA and the manufacturers of organophosphorous insecticides reached an agreement that curtailed the use of diazinon and chlorpyrifos in urban settings. In early 2020, California reached an agreement with the registrant to cease selling chlorpyrifos in California.[6] The registrant subsequently voluntarly withdrew the products. Wang *et al* (2017) conducted a review regarding the decline in use of diazinon contamination in surface waters, and regulatory actions from 1992 to 2014 and concluded that the pesticide poses a *de minimus* risk to aquatic life.

The Nation has a complete ban of use of any pesticides near or on any waters on the Nation (Resolution 11-06-2014-A, Kletsel Dehe Winton Nation Environmental Code). Chapter 7 of the KDWN Environmental Code details restrictions on use of pesticides and Section 7.103c outright bans the use or discharge of pesticides in the water.

The Nation acted in their authority electing to use the EPA 304 (a) technically and scientifically defensible acute and chronic diazinon and chlorpyrifos criteria. Considering the the Nation's ban of pesticide use, the discontinuation of these pesticides in urban settings, limited use of diazinon in agriculture, and scientific justification provided, EPA finds that the numeric criteria for diazinon and chlorpyrifos are consistent with 40 C.F.R. § 131.11 and approves these WQS pursuant to section 303(c) of the CWA.

Recreational Water Quality Criteria

The Nation adopted the following: "For all waters with the designated use specified in Table 3 (recreation in and on the water), the criteria in Column B of Table 9 shall apply."

[5] https://www.researchgate.net/figure/Timeline-for-the-phase-out-of-chlorpyrifos-and-diazinon-residential-use-product_fig1_24310395; https://training.fws.gov/resources/course-resources/pesticides/Fate%20and%20Transport/Diazinon_Phaseout.pdf; https://setac.onlinelibrary.wiley.com/doi/pdf/10.1002/etc.5620190109

[6] Press release: https://calepa.ca.gov/2019/10/09/press-release-agreement-reached-to-end-sale-of-chlorpyrifos-in-ca-by-feb-2020/.

Excerpt from p. 25 KDWN WQS: Table 9: Recreational Water Quality Criteria

	A Recommendation 1		**B Recommendation 2**	
	Estimated Illiness Rate (NGI): 32 per 1,000 primary contact recreators		**Estimated Illiness Rate (NGI): 36 per 1,000 primary contact recreators**	
Criteria Element	Magnitude		Magnitude	
Indicator	GM (cfu/100 mL)[a]	STV (cfu/100 mL)	GM (cfu/100 mL)[a]	STV (cfu/100 mL)
Enterococci (marine and fresh)	30	110	35	130
***E. coli* (fresh)**	100	320	126	410
[a] EPA recommends using *EPA Method 1600* (U.S. EPA, 2002a) to measure culturable enterococci, or another equivalent method that measures culturable enterococci. EPA recommends using *EPA Method 1603* (U.S. EPA, 2002b), or any other equivalent method that measures culturable *E. coli.*				
Duration and Frequency: The water body GM should not be greater than the selected GM magnitude in any 30-day interval. There should not be greater than a ten percent excursion frequency of the selected STV magnitude in the same 30-day interval.				
Office of Water 820-F-12-058, *Recreational Water Quality Criteria*				

The Nation adopted recreational criteria consistent with the EPA 2012 Recreational Water Quality Criteria.[7] EPA issued its ambient water quality criteria recommendations for recreational waters reflecting the latest scientific knowledge. The criteria are designed to protect the public from exposure to harmful levels of pathogens while participating in water-contact activities, such as swimming, wading and surfing, in all water bodies designated for such recreational uses. EPA finds these criteria to be consistent with 40 C.F.R. Part 131 and approves pursuant to section 303(c) of the Act.

Temperature Criteria

KDWN adapted its temperature criteria from the California CVRWQB Sacramento River San Joaquin River Basin Plan's Inland Surface Waters Water Quality Objectives (SRSJRBP) for waters designated as WARM.[8]

> "The natural receiving water temperature of surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Tribal Council that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of WARM designated waters be increased more than 5 °F above natural receiving water temperature."

[7] https://www.epa.gov/wqc/recreational-water-quality-criteria-and-methods
[8] https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

EPA finds the temperature criteria are consistent with available science (Federal Water Pollution Control Administration, 1968) and are protective of the WARM beneficial use and of temperature criteria (objectives) in downstream California waters. EPA finds the temperature criteria are protective of downstream uses as required by 40 C.F.R. § 131.10(b) and is consistent with 40 C.F.R. § 131.11 and approves the criteria pursuant to section 303(c) of the Act.

Design Flows

The Nation adopted the Design Flow based on EPA guidance[9] that refers to "Design Flows" as "Critical Low Flows" used for water quality criteria implementation, they describe the minimum amount of flow needed for the WQS to apply. This design flow establishes the applicability of the criteria to the waters on the Nation and includes provisions necessary to implement numeric criteria in a manner that maintains the level of protection intended. These Design Flow values are established to support implementation of the criteria generally through National Pollutant Discharge Elimination System permits. Excerpt from KDWN WQS: "The design flows in Table 10 of this section shall be used to implement the aquatic life and human health criteria in paragraph (d).

Table 10: Design Flows

Criteria	Design Flow
Aquatic Life Acute Criteria (CMC)	1 Q 10 or 1 B 3
Aquatic Life Chronic Criteria (CCC)	7 Q 10 or 4 B 3
Human Health Criteria	Harmonic Mean Flow

Notes to Table 10 of this section:

1. CMC (Criteria Maximum Concentration) is the water quality criterion to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a short term- average not to be exceeded more than once every three years on the average;
2. CCC (Continuous Criteria Concentration) is the water quality criterion to protect against chronic effects in aquatic life and is the highest in stream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average;
3. 1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically.
4. 1 B 3 is biologically based and indicates an allowable exceedance of once every 3 years. It is determined by EPA's computerized method (DFLOW model).
5. 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically.
6. 4 B 3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model).

[9] https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf

For aquatic life criteria, numeric water quality criteria should apply at all flows that are equal to or greater than the low flows in the Table below:

Type of criteria	Design flow
Acute Aquatic Life (CMC)	1 Q 10 or 1 B 3
Chronic Aquatic Life (CCC)	7 Q 10 or 4 B 3
Human Health	harmonic mean flow

Where:
1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically;
1 B 3 is biologically based and indicates an allowable exceedence of once every 3 years. It is determined by EPA's computerized method (DFLOW model);
7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically;
4 B 3 is biologically based and indicates an allowable exceedences for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model);"

EPA requires that the harmonic mean flow be applied with human health criteria. The harmonic mean is a standard calculated statistical value. EPA's model for human health effects assumes that effects occur because of long-term exposure to low concentrations of toxic pollutants, for example, two liters of water per day for seventy years. To estimate the concentrations of the toxic pollutant in those two liters per day by withdrawal from streams with a high daily variation in flow, EPA asserts the harmonic mean flow is the correct statistic to use in computing such design flows rather than other averaging techniques.
EPA approves the Design Flows adopted by the Nation as they are consistent with EPA recommendations and are appropriate given the intermittent flows on the Nation.

Antidegradation

The KDWN WQS Section 4.1 includes an antidegradation policy to maintain and protect water quality that exceeds the minimum standard.

"Existing instream water beneficial uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Where existing water quality is better than necessary to support propagation of aquatic life and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribal Council finds, after full satisfaction of intergovernmental coordination and public participation provisions of this Policy, that:

- Allowing lower water quality is necessary to accommodate important economic or social development in an area where the waters are located,
- Water quality adequate to protect existing beneficial uses is fully protected,
- The highest statutory and regulatory requirements for all new and existing point sources

are achieved, and
- All cost effective and reasonable best management practices (BMPs) for non-point source control are implemented.

In those cases where potential water quality impairments associated with thermal discharge is involved, the anti-degradation Policy and implementing methods shall be consistent with Section 316 of the Act, 33 U.S.C. § 1326."

The Nation also adopted descriptions of designation of Unique Waters, Sensitive Nation Waters, and Outstanding Tribal Resource Waters (KDWN WQS, p. 29). Section 4.1.1 details Antidegradation Implementation Procedures whereby the Kletsel Environmental Regulatory Authority (KERA) will implement and enforce the Antidegradation Policy.

The EPA Antidegradation Policy requires that water quality standards must include a framework and methodology for deciding if, when, and how water quality that exceeds the CWA 101(a) goal can be degraded by regulated activities and when that water quality must be maintained. EPA finds the Antidegradation Policy and Implementation adopted by the Nation meet the requirements at 40 C.F.R. § 131.12(a) and is approved.

Wetlands Designated Uses, Narrative Criteria, and Antidegradation Requirements

Wetlands Designated Uses for the Canyon 4 and Strode Creek wetlands; base flow discharge, cultural and traditional uses, flood flow attenuation, groundwater recharge, indigenous floral faunal diversity abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife.

Section 4.2.2 provides narrative criteria for wetlands:

> "All wetlands, as defined by the Nation, shall maintain the biological, physical, and chemical conditions of reference wetlands, specifically: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity; size shape; soil type horizon structure; water currents, erosion, or sedimentation patterns; water levels or elevations; and water temperature variations."
>
> Section 4.2.3 describes wetlands antidegradation requirements:
>
> "For all wetlands, as defined by the Nation, the following antidegradation requirements shall apply:
>
> i. Maintenance and protection of existing instream water uses and the level of water quality necessary to protect the existing uses.
> ii. No net loss to the water quality, functions, values, area, or ecological integrity of high-quality wetlands, unless, after satisfying applicable antidegradation provisions including avoidance, minimization, and mitigation/replacement

requirements, the Nation determines that allowing degradation is necessary to accommodate important social or economic development in the area in which the wetlands are located consistent with this section; and

iii. No loss to the water quality, functions, values, area, or ecological integrity of wetlands assigned as Outstanding National Resource.

KDWN WQS include two wetlands: 1) the Canyon 4 wetland which is adjacent to an asbestos containment/settlement pond, and 2) The Strode Creek wetland.
The Canyon 4 wetland is influenced by a dirt road embankment which allows water to collect on the west side of the road which forms the wetland type habitat. The Strode Creek wetland area is influenced by a dirt road and a paved creek crossing. The majority of the area spans the lower portion of Strode Creek prior to crossing the road."

EPA finds the wetland WQS meet the requirements under 40 C.F.R. § 131.11(a)(1) and approves pursuant section 303 (c) of the CWA.

Compliance Schedule Authorization Provision

KDWN adopted an authorization for the use of compliance schedules, on a case-by-case basis, for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits, when appropriate, and consistent with 40 C.F.R. § 122.47, for new, recommencing, or existing dischargers to require compliance as soon as possible with water quality-based effluent limitations calculated to meet water quality standards issued or revised after July 1, 1977.

EPA finds the Compliance Schedule Authorization Provision is consistent with the requirements of the section 303 (c) of the CWA and its implementing regulations at 40 C.F.R. § 131.5 and §131.6 and is approved.

WQS Variances

The KDWN WQS includes a Variance Policy to authorize short-term exceptions from meeting water quality-based effluent limitations to dischargers subject to NPDES permits:

"The Nation may include WQS variances at its discretion. EPA's regulation allows for adoption of a WQS variance consistent with the requirements of 40 C.F.R. §131.14. Note that to become effective under the Clean Water Act, any WQS variances issued after the initial WQS are adopted must themselves be adopted by the Nation and submitted by the Nation to U.S. EPA and approved by U.S. EPA in accordance with 40 C.F.R. Part 131. Any WQS variances adopted must be consistent 40 C.F.R. Part 131.

EPA finds the WQS Variance Policy is consistent with the requirements of the CWA and its implementing regulations at 40 C.F.R. § 131.5 and § 131.6 and is approved under section 303 (c) of the Act.

Non-substantive Language

The KDWN WQS includes language not included in the above approvals that EPA finds to be non-substantive. EPA acknowledges this non-substantive language to in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA's acknowledgement of the non-substantive language does not constitute an action. See: What is a new or revised WQS FAQ.[10] If, in the future, the Nation revises the non-substantive language, EPA will review the revisions to determine if the language constitutes a change in WQS.

Endangered Species Act

EPA's action on water quality standards is subject to Section 7 of the Endangered Species Act. EPA conducted an effects analysis and has made a "no effect" determination as a part of its administrative record for this action.

The U.S. Fish and Wildlife Service (FWS) Information for Planning and Conservation (IPaC) website generated a list of endangered and threatened species and critical habitat for Colusa County in which the KDWN Nation is located. There are seven listed species and no critical habitat in the County. While species occur in Colusa County, further refinement determined that no species occur on the Nation itself.
In its effects analysis EPA determined that no threatened or endangered species and no critical habitat occur in the action area of the Nation. Therefore EPA has determined that the action will not affect any threatened or endangered species or their critical habitat.

Consultation with Indian Tribes

EPA upholds its trust responsibility to federally recognized tribal governments consistent with the "*2011 EPA Policy on Consultation and Coordination with Indian Tribes.*"[11] Fundamental to this policy is to have meaningful communication and coordination with appropriate tribal leadership on a government-to-government basis prior to EPA taking actions or making decisions that may affect tribal interests.
On August 13, 2020 EPA provided a letter offering consultation to tribes whose interests may be affected by this action. Letters were sent to the Cachil DeHe Band of Wintun Indians of the Colusa Indian Community of the Colusa Rancheria, the Elem Indian Colony, and the Habematolel Pomo of Upper Lake. No tribes requested consultation.

[10] https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf
[11] https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes

Review and Revision of Water Quality Standards

40 C.F.R. §131.20(a) stipulates that:

> The State/Tribe shall from time to time, but at least once every 3 years, hold public hearings for the purpose of reviewing applicable water quality standards… if a State does not adopt new or revised criteria for parameters for which EPA has published new or updated CWA section 304(a) criteria recommendations, then the State shall provide an explanation when it submits the results of its triennial review...

As the Nation's first WQS, this action is not considered a Triennienal Review. As of this action the Nation has adopted all of the current EPA Recommended 304(a) criteria for aquatic life and human health. As part of its WQS Program, the Nation is expected to conduct a Triennial Review of its standards, as described above in accordance with 40 C.F.R. §131.20(a).

Conclusion

Based on EPA's review, the new WQS are consistent with the requirements of the CWA and 40 C.F.R. Part 131 and are approved by EPA pursuant to section 303(c) of the CWA.

References

EPA (2012) Water Quality Standards Handbook. Office of Water EPA-823-B-12-002, 2012. https://www.epa.gov/sites/production/files/2014-10/documents/handbook-chapter2.pdf

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Enclosure B

Table of EPA Approved Standards

The complete text of the Water Quality Standards summarized below can be found in: Kletsel Dehe Wintun Nation Water Quality Standards. Kletsel Environmental Regulatory Authority (KERA) 1st Edition 9/11/20. Cortina Rancheria Water Quality Standards.

Language	Summary
Section 2.1 Designation of Applicable Waters	Describes the water resources on the Nation and the conditions under which the WQS apply: "Waters resources within the Nation Include: Strode Creek, drainage channels 1 through 11, Seeps 1 through 9, the Strode Creek wetland area and Canyon 4 wetland. Numerical water quality criteria hereby apply to creeks and drainage channels where and when adequate seasonal volume and flow (aka free-flowing fresh waters) is available for sampling and groundwater wells located within the Tribal lands. Narrative water quality criteria hereby apply to all waters within the Nation, including seeps documented or not, wetlands, creeks, and drainages."
Section 2.2 Designated Beneficial Uses for Nation Waters	Clarifies that while there may not be standing water some of the time in some of the water bodies, seasonally, the beneficial uses will be designated and protected. "Water bodies within the Nation which do not have standing water could innately support seasonal beneficial uses for wildlife habitat and/or aquatic life habitats. These habitat designations, in no way, will affect the presence of or absence of other beneficial uses in these water bodies. Further classification will be based on the size of the water body, intermittent or ephemeral seasonal flows, and its historic and environmental significance."

Beneficial Uses and Definitions

Section 2.2 The Nation established the following nine Beneficial Uses and definitions for the waters of the Nation:

1. **Agricultural Supply** (**AGR**): Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.
2. **Native American Cultural/Traditional** (**CUL**): Uses of water that support the cultural and/or traditional rights by citizens of the Kletsel Dehe Wintun Nation. Associated activities include basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses. Ceremonial and/or religious water uses, including water the Tribal Council has declared as Sensitive or an Outstanding Tribal Resource Water, but not limited to hunting, gathering of materials, food, and medicinal plants. This use is protected under the American Indian Religious Freedom Act (**P.L.95-341**).
3. **Municipal and Domestic Supply** (**MUN**): Uses of water for community, military, or individual water supply systems.
4. **Rare**, **Threatened or Endangered Species or Species of Special Concern** (**RARE**): Uses of water that support habitat necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state, Tribal, or federal law as rare, threatened or endangered, or species of special concern.
5. **Water Contact Recreation** (**REC-1**): Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading.
6. **Non-Contact Water Recreation** (**REC-2**): Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities
7. **Warm Freshwater Habitat** (**WARM**): Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
8. **Wetland Habitat** (**WET**): Uses of water that support natural and man-made wetland ecosystems, including, but not limited to, preservation or enhancement of unique wetland functions, vegetation, fish, shellfish, invertebrates, insects, and wildlife habitat.
9. **Aquatic Life /Wildlife** (**WILD**): Provides habitat to sustain aquatic resources. Often subdivided into cold and warm water classification; provides water supply and habitat for maintenance of wildlife. Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Beneficial Uses	Water Body Designations

Section 2.2
Three waterbodies on the Nation have sufficient seasonal volume and flow to designate Beneficial Uses. The Nation designated Beneficial Uses as shown in the Table below (Table 3):

Major Nation Water Channel Beneficial Use Classification Key

Drainage	Type	Inter State	AGR	CUL	MUN	RARE	REC- 1	REC- 2	WARM	WET	WILD
Channel 1	Primary Intermittent, RPW[1]	X	H	H[2]	N/A	P	N/A*	E	E	E	P
Channel 8a Strode Creek	Primary Perennial, RPW	X	H	E, H	E	E	E	E	E	E	E
Channel 9a	Primary Ephemeral, non-RPW	X	H	N/A	N/A	P	N/A*	E	E	N/A	P

The Classification Key for the Beneficial Uses is as follows:
X= Waterbodies that extend beyond the Nation boundaries,
H= Historical Use,
N/A= Not Applicable,
P= Potential Use,
E= Existing Use.
* Rec-1 Use does not exist
Channel 1, and Channel 9a are tributaries to Channel 8a Strode Creek, when they leave the Nation. Use Attainability Analysis was completed for these water bodies: See attached Use Attainability Analysis in attachments.

See: *"Kletsel Dehe Wintun Nation Cortina Rancheria Use Attainability Analyses (UAA)s, August 6. 2020"* for Channel 1 and Channel 9a.

[1] These waters were identified by Army Corps of Engineers as either Relatively Permanent Waters (RPW) or (non-RPW) non-Relatively Permanent Waters.
[2] Historically this channel and its accompanying Riparian area were used for plant collection prior to 1975 to the present day making them culturally important.

Beneficial Uses	Wetlands

Section 2.3.1 Wetlands

For all wetlands as defined by the Nation, uses, functions, and values to be protected include but are not limited to: base flow discharge, cultural opportunities, flood flow attenuation, groundwater recharge, indigenous floral faunal diversity abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife to the extent that such uses, functions, and values occur as represented by established baselines. Further discussion of wetlands, including designated uses, can be found in Section 4.

Water Quality Criteria	Narrative Criteria

Section 3.1 contains the narrative water quality criteria applicable to all water resources on the Nation:

"General requirements. All waters on the Nation Section 2.1 shall be free from toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances in amounts that will prevent attainment of the designated uses specified in Section 2.2.

Aesthetic qualities. All waters on the Nation shall be free from substances, attributable to wastewater discharges or any other pollutant sources, that:

(i) Settle to form objectionable deposits.

(ii) Float as debris, scum, oil, or other matter forming nuisances.

(iii) Produce objectionable color, odor, taste, or turbidity.

(iv) Cause injury to, are toxic to, or produce adverse physiological responses in humans, animals, or plants; and/or

(v) Produce undesirable or nuisance aquatic life.

Protection of cultural and traditional uses. All waters with the cultural and traditional designated use shall be free from contaminants at levels that cause or contribute to an impairment in water-based activities essential to maintaining the Nation's cultural and traditional practices.

Downstream protection. All waters on the Nation shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the downstream waters of a state, such as Sacramento River Basin Plan water quality standards."

Water Quality Criteria	**Aquatic Life Criteria**

Section 3.2.1.1 EPA National Recommended Aquatic Life Criteria

The aquatic life criteria for these water quality standards are contained in Tables 4 through 9 of this section. The aquatic life criteria apply as follows:

(i) The aquatic life criteria in Tables 4 through 7 of this section apply to all waters designated for the protection and propagation of fish, shellfish, and wildlife in Tables 2 and 3.

(ii) For waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time, the applicable criteria are the freshwater criteria in Column B of Table 4, and in Tables 5, 6, and 7 of this section.

Table 4: Aquatic life criteria

A		**B Freshwater**	
Compound	**CAS Number**	**Criterion Maximum Concentration (CMC) (µg/L) B1**	**Criterion Continuous Concentration (CCC) (µg/L) B2**
Acrolein	107028	3	3
Aldrin [a]	309002	3	-
Alkalinity [b]		-	20000
alpha-Endosulfan [a,c]	959988	0.22	0.056
Aluminum pH 6.5 – 9.0	7429905	Reserved [d]	
Ammonia	7664417	See Table 7	
Arsenic [e,f]	7440382	340	150
beta-Endosulfan [a,c]	33213659	0.22	0.056
Cadmium [f]	7440439	See Tables 4a and 4b	
Carbaryl	63252	2.1	2.1
Chlordane [a]	57749	2.4	0.0043
Chloride	16887006	860000	230000
Chlorine	7782505	19	11
Chlorpyrifos	2921882	0.083	0.041
Chromium (III)[f]	16065831	See Tables 4a and 4b	

Chromium (VI)[f]	18540299	16	11
Copper [f]	7440508	See Table 5	
Cyanide [h]	57125	22	5.2
Demeton	8065483	-	0.1
Diazinon	333415	0.17	0.17
Dieldrin	60571	0.24	0.056[a]
Endrin	72208	0.086	0.036[i]
gamma-BHC (Lindane)	58899	0.95	-
Guthion	86500	-	0.01
Heptachlor [a]	76448	0.52	0.0038
Heptachlor Epoxide [a, j]	1024573	0.52	0.0038
Iron	7439896	-	1000
Lead [f]	7439921	See Tables 4a and 4b	
Malathion	121755	-	0.1
Mercury [k]		n/a	0.012
Methoxychlor	72435	-	0.03
Mirex	2385855	-	0.001
Nickel [f]	7440020	See Tables 4a and 4b	
Nonylphenol	84852153	28	6.6
Oxygen, Dissolved [l]	7782447		
Parathion	56382	0.065	0.013
Pentachlorophenol	87865	19[m]	15[m]
pH [n]		-	6.5 – 9
Selenium	7782492	See Table 6	
Silver [a,f]	7440224	See Tables 4a and 4b	
Sulfide-Hydrogen Sulfide	7783064	-	2
Temperature [o]		-	-
Toxaphene	8001352	0.73	0.0002
Tributyltin (TBT)		0.46	0.072
Zinc [f]	7440666	See Tables 4a and 4b	
4,4'-DDT [a]	50293	1.1	0.001

Footnotes to Table 4 of this section:

a. These criteria are based on the 1980 criteria, which used different Minimum Data Requirements and derivation procedures from the 1985 Guidelines. If evaluation is to be done using an averaging period, the acute criteria values given are not to be exceeded and should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

b. The CCC of 20mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

c. This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.

d. Freshwater criteria for aluminum are reserved for new values under development. Criteria will be added once available.

e. This recommended water quality criterion was derived from data for arsenic (III) but is applied here to total arsenic.
f. Freshwater and saltwater criteria for metals are expressed in terms of the dissolved metal in the water column. See Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria. See Table 1a for conversion factors.
g. Saltwater criteria for copper are reserved for new values under development. Criteria will be added once available.
h. These recommended water quality criteria are expressed as µg free cyanide (CN/L).
i. The derivation of the CCC for this pollutant did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.
j. This value was derived from data for heptachlor and there was insufficient data to determine relative toxicities of heptachlor and heptachlor epoxide.
k. Nation Waters flow into California Navigable Waters we are adopting the California Mercury Criteria to be protective of California State Navigable Waters.
On May 2, 2017, the California State Water Resources Control Board adopted "Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions" (Resolution 2017-0027). The mercury provisions were approved by EPA on July 14, 2017. The Resolution sets statewide mercury fish tissue criteria for the protection of aquatic life, wildlife and human health and creates new beneficial uses for tribal and subsistence fish consumption uses for California Regional Water Quality Control Boards to assign to waterbodies. Since the Nation has no fish on record as being present, the Nation has adopted the California water column concentration translated from the fish tissue criteria values for mercury.
The document provides a Table with translated fish tissue-to-water column numbers meant to be used for reasonable potential analysis and development of effluent limitations. .012 (µg/L) is based on California water column concentration values for mercury they can be found in Table 1 on page A-9 in the document containing California's Mercury Criteria:

https://www.waterboards.ca.gov/water_issues/programs/mercury/docs/hg_prov_final.pdf
l. For fresh waters, see Quality Criteria for Water, 1986 ("Gold Book"). For marine waters, see Ambient Aquatic Life Water Quality Criteria for Dissolved Oxygen (Saltwater): Cape Cod to Cape Hatteras (EPA-822-R-00-012).
m. Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH and values displayed in table correspond to a pH of 7.8. $CCC = e^{1.005(pH) - 5.134}$, $CMC = e^{1.005\ (pH) - 4.869}$
n. For open ocean waters where the depth is substantially greater than the euphotic zone, the pH should not be changed more than 0.2 units from the naturally occurring variation or any case outside the range of 6.5 to 8.5. For shallow, highly productive coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, changes in pH should be avoided but in any case should not exceed the limits established for fresh water, *i.e.*, 6.5-9.0.
o. Criteria are species dependent. See Quality Criteria for Water, 1986 ("Gold Book").

Notes to Table 1

1. Freshwater and saltwater aquatic life criteria apply as specified in paragraphs (d)(1) of this section.
2. Because of variations in chemical nomenclature systems, this listing of toxic pollutants does not duplicate the listing in Appendix A to 40 CFR Part 423 - 126 Priority Pollutants. EPA has added the Chemical Abstracts Services (CAS) registry numbers, which provide a unique identification for each chemical.

Table 4a: Conversion Factors for Dissolved Metals

Metal	Freshwater CMC	Freshwater CCC	Saltwater CMC
Arsenic	1.000	1.000	1.000
Cadmium	1.136672-[(ln hardness)(0.041838)]	1.101672-[(ln hardness)(0.041838)]	0.994
Chromium III	0.316	0.860	—
Chromium VI	0.982	0.962	0.993
Copper	0.960	0.960	0.83
Lead	1.46203-[(ln hardness)(0.145712)]	1.46203-[(ln hardness)(0.145712)]	0.951
Mercury	n/a	n/a	n/a
Nickel	0.998	0.997	0.990
Selenium	—	—	0.998
Silver	0.85	—	0.85
Zinc	0.978	0.986	0.946

Water Quality Criteria	**Human Health Criteria**

Section 3.2.1.2 contains EPA National Recommended Human Health Criteria:

The human health criteria for these water quality standards are contained in Table 8.

(i) The human health criteria for carcinogens in Table 5 were calculated based on an excess lifetime cancer risk level of 10^{-6} (one in a million).

(ii) The human health criteria in these standards were calculated using a fish consumption rate of 22 grams per day (gpd).

(iii) For all waters with the designated use specified in paragraph (b)(4) of this section (public water supply use), as modified by paragraph (k) of this section, the human health criteria for "Water Plus Organisms" as presented in Table 5 apply.

For all waters with the designated use specified in paragraph (b)(1) of this section (protection and propagation of fish, shellfish, and wildlife), but without the designated use specified in paragraph (b)(4) of this section (public water supply), as modified by paragraph (k) of this section, the human health criteria for "Organisms Only" as presented in Table 8 apply.

Table 8: Human Health Criteria

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
1,1,1-Trichloroethane [a]	71556	10000	200000
1,1,2,2-Tetrachloroethane	79345	0.2	3
1,1,2-Trichloroethane [a]	79005	0.55	8.9
1,1-Dichloroethylene [a]	75354	300	20000
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03
1,2,4-Trichlorobenzene [a]	120821	0.071	0.076
1,2-Dichlorobenzene [a]	95501	1000	3000
1,2-Dichloroethane [a]	107062	9.9	650
1,2-Dichloropropane	78875	0.9	31
1,2-Diphenylhydrazine	122667	0.03	0.2
1,2-Trans-Dichloroethylene [a]	156605	100	4000
1,3-Dichlorobenzene	541731	7	10
1,3-Dichloropropene	542756	0.27	12
1,4-Dichlorobenzene [a]	106467	300	900
2,4,5-Trichlorophenol [b]	95954	300	600
2,4,6-Trichlorophenol [b]	88062	1.5	2.8
2,4-Dichlorophenol [b]	120832	10	60
2,4-Dimethylphenol [b]	105679	100	3000
2,4-Dinitrophenol	51285	10	300
2,4-Dinitrotoluene	121142	0.049	1.7
2-Chloronaphthalene	91587	800	1000
2-Chlorophenol [b]	95578	30	800
2-Methyl-4,6-Dinitrophenol	534521	2	30
3,3'-Dichlorobenzidine	91941	0.049	0.15
3-Methyl-4-Chlorophenol [b]	59507	500	2000
4,4'-DDD	72548	0.00012	0.00012
4,4'-DDE	72559	0.000018	0.000018
4,4'-DDT	50293	0.00003	0.00003
Acenaphthene [b]	83329	70	90
Acrolein	107028	3	400
Acrylonitrile	107131	0.061	7
Aldrin	309002	7.7e-7	7.7e-7
alpha-BHC	319846	0.00036	0.00039
alpha-Endosulfan	959988	20	30
Anthracene	120127	300	400
Antimony [a,c,d]	7440360	5.6	640
Asbestos [a,c,e]	1332214	7 million fibers/L	--
Barium [a,c,e,f]	7440393	1000	--
Benzene [a]	71432	0.58	16

Benzidine	92875	0.00014	0.011
Benzo(a) Anthracene	56553	0.0012	0.0013
Benzo(a) Pyrene [a]	50328	0.00012	0.00013
Benzo(b) Fluoranthene	205992	0.0012	0.0013
Benzo(k) Fluoranthene	207089	0.012	0.013
beta-BHC (beta-HCH)	319857	0.008	0.014
beta-Endosulfan	33213659	20	40
Bis(2-Chloro-1-Methylethyl) Ether	108601	200	4000
Bis(2-Chloroethyl) Ether	111444	0.03	2.2
Bis(2-Ethylhexyl) Phthalate [a]	117817	0.32	0.37
Bis(Chloromethyl) Ether	542881	0.00015	0.017
Bromoform [a]	75252	7	120
Benzyl Butyl Phthalate	85687	0.1	0.1
Carbon Tetrachloride [a]	56235	0.4	5
Chlordane [a]	57749	0.00031	0.00032
Chlorobenzene [a,b]	108907	100	800
Chlorodibromomethane [a]	124481	0.8	21
Chloroform [a]	67663	60	2000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex] [a]	93721	100	400
Chlorophenoxy Herbicide (2,4-D) [a]	94757	1300	12000
Chrysene [a]	218019	0.12	0.13
Copper [a,b,c,e]	7440508	1300	--
Cyanide [a]	57125	4	400
Di-n-Butyl Phthalate	84742	20	30
Dibenzo(a,h) Anthracene	53703	0.00012	0.00013
Dichlorobromomethane [a]	75274	0.95	27
Dieldrin	60571	0.0000012	0.0000012
Diethyl Phthalate	84662	600	600
Dimethyl Phthalate	131113	2000	2000
Dinitrophenols	25550587	10	1000
Endosulfan Sulfate	1031078	20	40
Endrin	72208	0.03	0.03
Endrin Aldehyde [a]	7421934	1	1
Ethylbenzene [a]	100414	68	130
Fluoranthene	206440	20	20
Fluorene	86737	50	70
Gamma-BHC (HCH); Lindane [a]	58899	4.2	4.4
Heptachlor [a]	76448	0.0000059	0.0000059
Heptachlor Epoxide [a]	1024573	0.000032	0.000032
Hexachlorobenzene [a]	118741	0.000079	0.000079
Hexachlorobutadiene [a]	87683	0.01	0.01

Hexachlorocyclohexane (HCH) - Technical	608731	0.0066	0.01
Hexachlorocyclopentadiene [a,b]	77474	4	4
Hexachloroethane	67721	0.1	0.1
Indeno(1,2,3-cd) Pyrene	193395	0.0012	0.0013
Isophorone	78591	34	1800
Manganese [b,c,e,g]	7439965	50	100
Methoxychlor [a]	72435	0.02	0.02
Methyl Bromide	74839	100	10000
Methylene Chloride [a]	75092	20	1000
Mercury [j]	7439976	N/A	0.012
N-Nitrosodi-n-Propylamine [c]	621647	0.005	0.51
N-Nitrosodimethylamine [c]	62759	0.00069	3
N-Nitrosodiphenylamine [c]	86306	3.3	6
Nickel [c,d]	7440020	610	4600
Nitrates [a,c,e]	14797558	10000	--
Nitrobenzene [b]	98953	10	600
Nitrosamines [c]	--	0.0008	1.24
Nitrosodibutylamine [c]	924163	0.0063	0.22
Nitrosodiethylamine [c]	55185	0.0008	1.24
Nitrosopyrrolidine [c]	930552	0.016	34
Pentachlorobenzene	608935	0.1	0.1
Pentachlorophenol (PCP) [a,b]	87865	0.03	0.04
pH [c,e]	--	5-9	--
Phenol [b]	108952	4000	300000
Polychlorinated Biphenyls (PCBs) [a,c,i]	1336363	0.000064	0.000064
Pyrene	129000	20	30
Selenium [a,c]	7782492	170	4200
Solids Dissolved and Salinity [c,e]	--	250000	--
Tetrachloroethylene [a]	127184	10	29
Toluene [a]	108883	57	520
Toxaphene [a]	8001352	0.0007	0.00071
Trichloroethylene [a]	79016	0.6	7
Vinyl Chloride [a]	75014	0.022	1.6
Zinc [b,c]	7440666	7400	26000

Footnotes:

a. EPA has issued a Maximum Contaminant Level (MCL) for this chemical which may be more stringent. See EPA's National Primary Drinking Water Regulations.
b. The criterion for organoleptic (taste and odor) effects may be more stringent. See National Recommended Water Quality Criteria - Organoleptic Effects.
c. EPA's National Recommended Human Health Water Quality Criteria for this pollutant were not updated in 2015.

d. This criterion was revised to reflect EPA's q1* or reference dose (RfD) as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) is from the 1980 Ambient Water Quality Criteria document.
e. Criteria for these pollutants are from the National Recommended Water Quality Criteria - Human Health Criteria Table. They are not calculated based on this table's inputs for fish consumption rate and cancer risk level.
f. This human health criterion is the same as originally published in the Quality Criteria for Water, 1976 ("Red Book") which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is published in the Quality Criteria for Water, 1986 ("Gold Book").
g. The Human Health for the consumption of Water + Organism criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.
h. This fish tissue residue criterion for methylmercury is based on the total fish consumption rate.
i. This criterion applies to total PCBs (*e.g.*, the sum of all congener or all isomer or homolog or Aroclor analyses).
j. See aquatic life criterion (Table 4) which is protective of both aquatic life and human health.

Water Quality Criteria	**Recreational Water Quality Criteria**

3.2.1.3 Recreational Water Quality Criteria

For all waters with the designated use specified in Table 3 (recreation in and on the water), the criteria in Column B of Table 9 shall apply.

Table 9: Recreational Water Quality Criteria

	A **Recommendation 1**		**B** **Recommendation 2**	
	Estimated Illiness Rate (NGI): **32 per 1,000 primary contact recreators**		**Estimated Illiness Rate (NGI):** **36 per 1,000 primary contact recreators**	
Criteria Element	Magnitude		Magnitude	
Indicator	GM (cfu/100 mL)[a]	STV (cfu/100 mL)	GM (cfu/100 mL)[a]	STV (cfu/100 mL)
Enterococci (marine and fresh)	30	110	35	130
***E. coli* (fresh)**	100	320	126	410
[a] EPA recommends using *EPA Method 1600* (U.S. EPA, 2002a) to measure culturable enterococci, or another equivalent method that measures culturable enterococci. EPA recommends using *EPA Method 1603* (U.S. EPA, 2002b), or any other equivalent method that measures culturable *E. coli.*				
Duration and Frequency: The water body GM should not be greater than the selected GM magnitude in any 30-day interval. There should not be greater than a ten percent excursion frequency of the selected STV magnitude in the same 30-day interval.				
Office of Water 820-F-12-058, *Recreational Water Quality Criteria*				

Water Quality Criteria	Temperature Criteria

Section 3.2.1.4 Temperature Criteria

The Nation adopted temperature criteria protective of WARM beneficial uses and protective of downstream waters:
"Temperature criteria are adapted from the Sacramento River San Joaquin River Basin Plan's Inland Surface Waters Water Quality Objectives (SRSJRBP) for waters designated as WARM (https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf).
The natural receiving water temperature of surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Tribal Council that such alteration in temperature does not adversely affect beneficial uses.
At no time or place shall the temperature of WARM designated waters be increased more than 5 °F above natural receiving water temperature."

Water Quality Criteria	Design Flows

Section 3.2.1.5 Design Flows
The Nation adopted Design Flows identical to those promulgated by EPA for California in the California Toxics Rule (CTR).
"The design flows in Table 10 of this section shall be used to implement the aquatic life and human health criteria in paragraph (d).

Table 10: Design Flows

Criteria	Design Flow
Aquatic Life Acute Criteria (CMC)	1 Q 10 or 1 B 3
Aquatic Life Chronic Criteria (CCC)	7 Q 10 or 4 B 3
Human Health Criteria	Harmonic Mean Flow

Notes to Table 10 of this section:

1. CMC (Criteria Maximum Concentration) is the water quality criterion to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a short term- average not to be exceeded more than once every three years on the average;
2. CCC (Continuous Criteria Concentration) is the water quality criterion to protect against chronic effects in aquatic life and is the highest in stream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average;
3. 1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically.
4. 1 B 3 is biologically based and indicates an allowable exceedance of once every 3 years. It is determined by EPA's computerized method (DFLOW model).

5. 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically.
6. 4 B 3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model)."

Antidegradation	Antidegradation Policy and Implementation

Section 4.1 details the Nation's Antidegradation Policy and Implementation:
Existing instream water beneficial uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Where existing water quality is better than necessary to support propagation of aquatic life and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribal Council finds, after full satisfaction of intergovernmental coordination and public participation provisions of this Policy, that:

- Allowing lower water quality is necessary to accommodate important economic or social development in an area where the waters are located,
- Water quality adequate to protect existing beneficial uses is fully protected,
- The highest statutory and regulatory requirements for all new and existing point sources are achieved, and
- All cost effective and reasonable best management practices (BMPs) for non-point source control are implemented.

In those cases where potential water quality impairments associated with thermal discharge is involved, the anti-degradation Policy and implementing methods shall be consistent with Section 316 of the Act, 33 U.S.C. § 1326.

The Nation adopted descriptions of designation of Unique Waters, Sensitive Nation Waters, and Outstanding Tribal Resource Waters:
Unique Water Designations

1. High Quality Nation Waters

a. Where water quality exceeds the levels necessary to support basic uses such as propagation of aquatic life and wildlife and recreation in and on the water, the Tribal Council may designate those waters as high-quality Nation waters.
b. Water quality and stream ecosystem health in high quality Nation waters shall be maintained to protect:
    i. Culturally, religiously significant, or economically beneficial areas
    ii. Archeological and historical sites
    iii. Natural flow regimes
    iv. Natural flood retention capacity
    v. Instream habitats for aquatic life
c. Water-dependent wildlife, including plants and wildlife designated as sensitive by the Nation
d. Native riparian vegetation, including plants traditionally gathered for cultural and medicinal purposes

2. Sensitive Nation Waters

The Tribal Council may designate a water body as a sensitive Nation water and such waters shall be maintained to protect water quality and stream ecosystem health in the same manner as high-quality Nation water. In many cases, these waters have been substantially degraded from their historical condition. This state of degradation may prevent many of the uses, including recreation and support of the full assemblage of native aquatic life, that were once provided by these streams. It may not be known to what extent those uses may be restored in the future. It is the Nation's policy that these waters should be protected to encourage natural restoration to occur, and to engage in active restoration measures on a priority basis determined by the Nation and once designated the beneficial uses shall be CUL.

In permitting any activity that could impact in sensitive water bodies, the Nation shall require the most stringent statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable BMPs for non-point source control.

3. Outstanding Tribal Resource Waters
   i. The Tribal Council may designate a water body as an Outstanding Tribal Resource Water due to cultural value, the presence of archeological or historic sites, ecological or biological features, scenic beauty, or other exceptional qualities of importance to the Band.
   ii. No degradation of Outstanding Tribal Resource Waters shall be permitted (i.e. their high quality shall be maintained and protected).

Section 4.1.1 details Antidegradation Implementation Procedures whereby the Kletsel Environmental Regulatory Authority (KERA) shall implement and enforce the Antidegradation Policy by:

- Establishing and maintaining controls on the discharge of pollutants to surface waters.
- Work with EPA to develop, issue, and enforce National Pollutant Discharge Elimination System (NPDES) permits for Reservation dischargers
- Monitor water quality (chemical, physical, and biological) to assess the effectiveness of pollution controls and to determine whether water quality standards are being attained.
- Obtain and assess information pertinent to the actual environmental effect of any effluent discharge, using data that accurately represents the quality and quantity of the effluent and receiving water,
- Advise any prospective discharger in writing, as needed, of requirements for obtaining a permit to discharge, including any additional permit requirements that the Nation may enact.
- Maintain and review the adequacy of existing data bases and obtain additional data when required.
- Assess the probable impact of discharges to receiving Nation waters with regard to designated uses, anti-degradation Policy, and numeric and narrative standards.
- Require the degree of wastewater treatment that is practicable, cost-effective, and commensurate with protecting and maintaining designated uses and the existing water quality of the receiving water.
- Follow EPA-approved procedures to develop water quality-based effluent limitations and comment on technology-based effluent limitations, as appropriate, for inclusion in any Tribal or federal permit issued to a discharger.

- Require that effluent limitations developed by the Nation be included in any such permit as a condition for Tribal certification pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341,
- Institute and coordinate water pollution control activities with other Tribal entities, including other departments, enterprises, livestock associations, and communities as appropriate.
- Coordinate water pollution control activities with the Nation, and federal agencies, as appropriate and in consultation with the Tribal Council.
- Develop and pursue inspection and enforcement programs to ensure that:
    - Dischargers comply with requirements of this Policy.
    - Satisfy the requirements of any regulations the Band enact subsequent to the adoption of this Policy; and
    - Enforce federal permits with assistance from the EPA
    - Encourage, in conjunction with other Tribal entities and outside agencies, the development and implementation of Best Management Practices (BMPs) to control nonpoint sources of pollutants in order to achieve compliance with this Policy.
    - Ensure that the provisions for public participation required by Tribal law and applicable provisions of the Clean Water Act are followed.
    - Subject to the approval of the Tribal Council, designate streams as perennial, intermittent, or ephemeral in accordance with this Policy and with appropriate hydrologic technical support; and
    - Provide technical support as is required to accomplish the criteria of this Policy, including recommendations to the Tribal Council of any permitting or management regulations which would be consistent with the purposes of this Policy.

The EPA Antidegradation Policy requirement states that water quality standards must include a framework and methodology for deciding if, when, and how water quality that exceeds the CWA 101(a) goal can be degraded by regulated activities and when that water quality must be maintained.

Wetlands Protections	Designated Uses, Narrative Criteria, and Antidegradation Requirements

In Section 4.2 the Nation adopted water quality standards for wetlands.
Section 4.2.1 lists Wetlands Designated Uses for the Canyon 4 and Strode Creek wetlands; base flow discharge, cultural and traditional uses, flood flow attenuation, groundwater recharge, indigenous floral faunal diversity abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife.
Section 4.2.2 provides narrative criteria for wetlands:

> "All wetlands, as defined by the Nation, shall maintain the biological, physical, and chemical conditions of reference wetlands, specifically: base flow, flow regime, wetland

hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity; size shape; soil type horizon structure; water currents, erosion, or sedimentation patterns; water levels or elevations; and water temperature variations."
Section 4.2.3 describes wetlands antidegradation requirements:
"For all wetlands, as defined by the Nation, the following antidegradation requirements shall apply:

i. Maintenance and protection of existing instream water uses and the level of water quality necessary to protect the existing uses.
ii. No net loss to the water quality, functions, values, area, or ecological integrity of high-quality wetlands, unless, after satisfying applicable antidegradation provisions including avoidance, minimization, and mitigation/replacement requirements, the Nation determines that allowing degradation is necessary to accommodate important social or economic development in the area in which the wetlands are located consistent with this section; and
iii. No loss to the water quality, functions, values, area, or ecological integrity of wetlands assigned as Outstanding National Resource."

Implementation	Compliance Schedule Authorization Provision

In Section 5 the Nation has adopted a Compliance Schedule Authorization Provision. This is an authorization for the use of compliance schedules, on a case-by-case basis, for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits, when appropriate, and consistent with 40 CFR 122.47, for new, recommencing, or existing dischargers to require compliance as soon as possible with water quality-based effluent limitations calculated to meet water quality standards issued or revised after July 1, 1977.

Implementation	WQS Variances

In Section 6 of the KDWNWQS the Nation has adopted a Variance Policy which is an authorization to grant short-term exceptions from meeting water quality-based effluent limitations (WQBELs) to dischargers subject to NPDES permits:

"The Nation may include WQS variances at its discretion. EPA's regulation allows for adoption of a WQS variance consistent with the requirements of 40 CFR 131.14. Note that to become effective under the Clean Water Act, any WQS variances issued after the initial WQS are adopted they must themselves be adopted by the Nation and submitted by the Nation to U.S. EPA and approved by U.S. EPA in accordance with 40 CFR 131. Any WQS variances adopted will be consistent with the regulation at 40 CFR 131.14 …"